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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/774,956	02/09/2004	Donald S. Gardner	884.140US3	5571
21186	7590	04/11/2005	EXAMINER	
SCHWEGMAN, LUNDBERG, WOESSNER & KLUTH, P.A. P.O. BOX 2938 MINNEAPOLIS, MN 55402			BEREZNY, NEMA O	
			ART UNIT	PAPER NUMBER
			2813	

DATE MAILED: 04/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

H.A

Office Action Summary

Application No.

10/774,956

Applicant(s)

GARDNER, DONALD S.

Examiner

Nema O. Berezny

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 January 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 and 36-47 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 and 36-47 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 02092004.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

Applicant's election without traverse of claims 1-10 in the reply filed on 1-10-05 is acknowledged. Cancellation of claims 11-35 is also acknowledged; claims 1-10 and 36-47 are pending.

Double Patenting

A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

Claims 36 and 45-47 are objected to under 37 CFR 1.75 as being a substantial duplicate of claims 5 and 8-10, respectively. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-2, 4-5, 7, 36-37, 39, and 41 are rejected under 35 U.S.C. 102(e) as being anticipated by Fillion et al. (6,239,482). Fillion discloses an integrated circuit fabricated by: forming a first dielectric layer (Fig.3 el.222, layer on 222) in a manner that varies in the Z-dimension; and forming a first conductive layer (el.226) over the first dielectric layer, the first conductive layer also varying in the Z-dimension, the first conductive layer having a length and a width, the length being substantially greater than the width, the first conductive layer being arranged in a substantially straight line along the X-dimension, and the first conductive layer comprising upper segments and lower segments, the upper segments being longer than the lower segments (Figs.2, 3) **[claim 1]**. Fillion also discloses forming a second dielectric layer (el.16) in a manner that varies in the Z-dimension; forming a second conductive layer (el.28) over the second dielectric layer, the second conductive layer also varying in the Z-dimension, the second conductive layer having a length and a width, the length being substantially greater than the width, the second conductive layer being arranged in a substantially straight line along the X-dimension, and the second conductive layer comprising upper segments

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and lower segments, the upper segments being longer than the lower segments (Fig.3); and coupling (el.70) the second conductive layer to the first conductive layer [claims 5, 36]; wherein, in forming the first dielectric layer, the first dielectric layer is arranged in a stepped manner (Fig.3) [claims 2, 37]; wherein, in forming the first dielectric layer, the first dielectric layer is arranged in a manner that alternates between trenches and pedestals (Fig.1) [claims 4, 39]; and wherein, in forming the first conductive layer, the first conductive layer comprises material from the group consisting of copper, aluminum, tungsten, molybdenum, titanium, gold, silver, palladium, a metal silicide, doped polysilicon, or is an alloy whose constituents are from the group (col.3 lines 48-52) [claims 7, 41].

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fillion as applied to claims 1 and 36 above, and further in view of Wojnarowski et al. (5,331,203). Fillion does not disclose a first dielectric layer in an undulating manner. However, Fillion would look to one such as Wojnarowski for better coverage because Wojnarowski discloses wherein, in forming the first dielectric layer, the first dielectric layer is arranged in an undulating manner (Fig.1). Therefore, it would have been

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obvious to a person of ordinary skill in the art at the time of the invention to use the undulating of Wojnarowski with the IC of Fillion. An undulating dielectric surface has no sharp corners and would therefore provide better coverage of the conductive layer over the dielectric layer.

Claims 6 and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fillion as applied to claims 1, 5, and 36 above, and further in view of Liou (6,037,649). Fillion does not disclose offsetting the first conductive layer from the second conductive layer by 180 degrees. However, Fillion would look to one such as Liou for a higher quality factor because Liou discloses wherein, in forming the second conductive layer, the upper segments in the first conductive layer are offset 180 degrees from the upper segments in the second conductive layer, as defined by Applicant in specification p.5 lines 17-23 and Fig.1 (Fig.3C). Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to use the offsetting of Liou with the IC of Fillion in order to provide a higher quality factor (Liou – col.3 lines 1-5).

Claims 8-10 and 42-47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fillion as applied to claims 1 and 36 above, and further in view of Ahn et al. (2001/0041401). Fillion does not disclose a conductive layer comprising magnetic material. However, Fillion would look to one such as Ahn for a larger inductance in a small volume because Ahn discloses wherein, in forming the first conductive layer, the first conductive layer comprises magnetic material (p.3 para.47,51)

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[claims 8, 42, 45]; wherein, in forming the first conductive layer, the magnetic material is from the group consisting of nickel-iron, cobalt-zirconium-tantalum, iron-tantalum-nickel, nickel-iron-rhenium, and ferro-silicon (p.3 para.47,51) **[claims 9, 43, 46]**; and wherein, in forming the first conductive layer, the magnetic material is from the group consisting of iron, nickel, cobalt, manganese, zinc, zirconium, tantalum, rhenium, silicon, and the rare earth elements, or is an alloy whose constituents are from the group (p.3 para.47,51) **[claims 10, 44, 47]**. Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to use the magnetic material of Ahn with the IC of Fillion in order to provide a larger inductance in a small volume (Ahn – p.3 para.47).

Conclusion

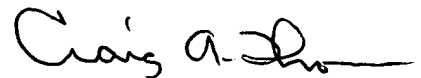
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nema O. Berezny whose telephone number is (571) 272-1686. The examiner can normally be reached on M-F 9-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carl Whitehead, Jr. can be reached on (571) 272-1702. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

NB



CRAIG A. THOMPSON
PRIMARY EXAMINER